Effects of Gender and Regional Dialect on Uptalk in the American Midwest

Undergraduate Research Thesis

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Abstract

This study compares the distribution of uptalk contours across male and female speakers of two Midwestern dialects of American English. Sixteen speakers, evenly divided between dialect and gender, were recorded reading ten passages in plain lab speech. The contours defined as uptalk in this study were H* H-H%, H* L-H%, L* H-H%, and L* L-H%. The results indicate that neither gender nor dialect had an effect on overall uptalk frequency, which could reflect prosodic similarities in the two dialects. The null results for gender are particularly surprising because they run contrary to many of the previous studies on uptalk, which found that women use uptalk more than men. Gender and dialect also had no significant effect on the types of uptalk contours used: speakers from both dialects used primarily three of the four uptalk contours that were examined (H* L-H%, L* H-H% and L* L-H%). These uptalk contours differed from the uptalk contours identified in other North American varieties of English, suggesting that there are regional differences in uptalk realization.

1. Introduction

The phenomenon of rising tunes in declarative sentences, also known as high rising terminals or uptalk, has been documented across many varieties of English. In Australia, uptalk is well-attested in urban areas such as Sydney (Horvath 1985) and Melbourne (Fletcher & Loakes 2006) as well as in rural Victoria (Fletcher & Loakes 2006) and in General Australian English (Fletcher, Grabe & Warren 2004; McGregor & Palenthorpe 2008). In New Zealand, uptalk has been attested in Auckland (Innes 2007) and in the New Zealand Spoken English Database (NZSED) (Fletcher, Grabe & Warren 2004; Warren 2002; Warren 2005). In the United Kingdom, high rising tunes have been documented in Glasgow (Cruttenden 1995; Fletcher, Grabe & Warren 2004), Belfast (Cruttenden 1995; Fletcher, Grabe & Warren 2004; Jarman & Cruttenden 1976; Sullivan 2012), other urban northern British cities such as Birmingham and Liverpool (Cruttenden 1995; Ladd 1996), and in varieties of Southern British English (Barry 2007). In North America, much of the research and media attention surrounding uptalk has focused on Southern Californian English (Barry 2007; Gorman 1993; Ritchart & Arvaniti 2014). Uptalk has also been documented in South Ontario English (Shokeir 2008) and other varieties of Canadian English (Sando 2009), but there has not been much research dedicated to other North American varieties, particularly in the American Midwest region.

While evidence suggests that uptalk may be a common feature across English dialects, including non-native varieties (Talla Sando 2006), and that its usage is stable across age groups (Shokeir 2008), uptalk is usually associated with the speech of young women (e.g. Britain 1992; Guy & Vonwiller 1984; Lakoff 1975; McLemore 1991). Popular beliefs about uptalk users include the perception that they are insecure or are giving deference to the listener (Ching 1982; Davis 2002; Lakoff 1975). Lakoff (1975) noted that uptalk is a particular feature of women's

speech and that it signals the speaker's lack of confidence and social powerlessness. However, uptalk is exclusive neither to women nor teenagers (Ainsworth 1994; Allan 1984; Guy & Vonwiller 1984; Shokeir 2008) and subsequent research has rejected this social inequality analysis (Britain 1992, Guy & Vonwiller 1984). Britain (1992) conducted a study on the prevalence of high rising terminals in New Zealand English between ethnically Maori and non-Maori populations across age, gender, and socioeconomic class. The results indicated that high rising terminals were most frequently produced by Maori males and females and non-Maori females in the youngest age group (ages 20-29), suggesting that uptalk is a linguistic change in progress. Fletcher, Grabe and Warren (2004) discussed how the high rising tune in declarative sentences has been adopted across a larger subset of the Australian English speech community and is no longer primarily associated with young female speakers. Their findings from the ANDOSL (Australian National Database of Spoken Language) MAP corpus (Millar et al. 1994) showed that high rising terminals are used frequently by both males and females. Similarly, Richart and Arvaniti (2014) found that certain usages of uptalk, such as confirmation requests, exhibit no gender differences in Southern Californian English. However, both Barry (2007) and Ritchart and Arvaniti (2014) found that women use uptalk more frequently than men for the purpose of floor-holding. Women also tend to have a higher frequency of uptalk usage overall across dialects, including in Canadian (Sando 2009), Belfast (Sullivan 2012), and New Zealand (Warren 2005) English. This difference between genders occurs regardless of age (Shokeir 2008). While uptalk has been adopted across genders and is no longer associated exclusively with the speech of young women, its usage is still gendered, with women producing it more than men.

The current study compares the distribution of uptalk contours in the Northern and Midland dialects of American English, where uptalk has not previously been examined. I expected to observe a difference in usage across dialects, as previous research has demonstrated prosodic differences across other dialects of American English (Arvaniti & Garding 2007; Clopper & Smiljanic 2011). If uptalk is distributed similarly across regions, this result would provide further evidence of uptalk as a common feature across English varieties, as per Shokeir's (2008) suggestion. This study also compares the distribution of uptalk contours between genders, both within each dialect and as a whole. I expected the results to support previous findings that women use uptalk more than men. The analysis focused on four rising contours associated with uptalk in North America: L* L-H%, L* H-H%, H* L-H%, and H* H-H% (Barry 2007; Ritchart & Arvaniti 2014; Shokeir 2008).

2. Literature Review

Uptalk appears to convey a number of meanings across English varieties. In Australian English, rising declarative tunes are used when the speaker wants to hold the floor (Fletcher et al. 2001), negotiate turn taking (Guy & Vonwiller 1984), or verify understanding (Allan 1984; Guy & Vonwiller 1984). In both Australian and New Zealand English, rising tunes are used most frequently in explanations, narratives, and statements of fact and less frequently when expressing opinions (Allan 1984; Guy and Vonwiller 1984; Innes 2007). Furthermore, evidence suggests that the negative perceptions of uptalk usage may not match the intentions of the speakers who use it. Guy and Vonwiller (1984) found that high rising tunes in Australian English occurred in phrases in which the speakers were confident in their knowledge, such as when giving their name, which makes uncertainty or deference unlikely meanings in these contexts. The study also

found that instances of uptalk were most prevalent when the speaker explained something to the listener. They therefore concluded that the rising intonation was used by speakers to verify listener understanding. Similarly, Bolinger (1978) observed that speakers of American English used uptalk when "giving a running account of something" in order to verify that the listener is still paying attention. Taken together, these studies suggest that the function of rising intonation in statements is common across English varieties. Ainsworth (1994) also concluded that the function of the high rising tune in New Zealand English was likely to seek verification as well as mark politeness, which is supported by Warren and Britain (2000), who suggest that the politeness markers serve to maintain solidarity between the speaker and listener. The primary functions of uptalk are therefore intended to verify the listener's understanding, hold the floor, and negotiate speaker-listener solidarity and turn-taking.

Previous research has documented different rising intonation contours for both statements and questions in different dialects. In Australian English, contours described as L* H-H% and H* H-H% are used in both questions and declarative sentences (Fletcher et al. 2001) while the contour H* L-H% is associated with statements (Fletcher & Loakes 2006). However, Fletcher and Harrington (2001) found that adult speakers of both genders generally used distinct rising contours to differentiate between statements and yes/no questions. According to the results of their study, 84% of statements were produced with a low pitch accent onset while 91% of interrogatives were produced with a high pitch accent onset. This difference was also observed by Fletcher, Grabe and Warren (2004), although only for some speakers. McGregor and Palenthorpe (2008) found that speakers in a map task used H* pitch target onsets in uptalk contours to indicate new information and L* target onsets to reference information that was not new, supporting Pierrehumbert and Hirschberg's (1990) previous work on intonational meaning

in Standard American English. According to their theory, pitch accents convey the speaker's belief about the status of a lexical item as well as how it relates to the mutual beliefs of the speaker and listener. The high pitch accent signals that new information is being added to the mutual beliefs of speaker and listener whereas the low pitch accent signals that the information already exists within both the speaker's and listener's shared knowledge.

Previous work has also found differences between uptalk and question contour pitch onsets, specifically that questions typically have H* onsets while statements have L* onsets (Fletcher & Harrington 2001; Fletcher, Grabe & Warren 2004). These findings suggest that the difference in pitch accent in questions and statements relates to assumed speaker and listener knowledge. However, Pierrehumbert and Hirschberg (1990) noted that H* and L* contours occur in both questions and statements, and that the H* in a question assumes that the listener will respond with a confirmation while the L* in a question assumes that the speaker does not know how the listener will respond. McGregor and Palenthorpe (2008) also found that Leaders in the map task tended to use H* questions and statements with the expectation of a confirmation response and L* questions and statements when they expected the Follower to provide information. The difference in pitch onset realization of rising tunes between statements and interrogatives may therefore be at least partially determined by the speaker's assumptions about shared knowledge versus new knowledge.

In Belfast English, high rising tunes are suggested to be the result of pragmatic transfer from list intonation rather than transfer from question rises (Sullivan 2012). Cruttenden (1995) proposed that the high rising terminals of Urban Northern British (UNB) English, which includes the varieties spoken in the cities of Belfast, Glasgow, Birmingham, Liverpool, and Newcastle, are a different phenomenon altogether than the rising tunes found in Australian, New Zealand,

and American English. Ladd (1996) refers to these declarative rising tunes in terms of "systemic" intonational differences, in which the inventory of phonologically distinct tune types differs regardless of semantic differences. North American, New Zealand, and Australian rising tunes convey semantic information while UNB rising and rising-falling tunes are said to be the unmarked statement intonation. In terms of contour shape, Ladd (1996:123) noted that "intonationally, the most conspicuous characteristic of [UNB] varieties is that the ordinary intonation on statements is rising or rising-falling." The "rise-plateau" and "rise-plateau-slump" contours have also been attested in these dialects (Cruttenden 1995; Fletcher, Grabe & Warren 2004), which are represented as L*H H-H% and L*H H-L% respectively in Glasgow English (Mayo, Aylett & Ladd 1997). Note that under GlaToBI (Mayo, Aylett & Ladd 1997) conventions, the rule that L% upsteps after H- phrase accent in other English varieties is suspended in order to represent the fall. These declarative rise-plateau and rising-falling intonation patterns contrast with other English varieties, in which the prototypical declarative intonation is marked by a falling contour whereas a yes/no question or semantically-marked statement is realized with a rising intonation. In fact, Lowry (2011) found that Belfast English speakers who used the falling intonation declarative pattern frequently were more likely to be perceived as expressive and enthusiastic in their speech, supporting the hypothesis that the rise-plateau contour in Belfast is unmarked. This statement contour differs from the uptalk contours in other English varieties that are semantically marked, which are realized with a terminal rise instead of a plateau. Lowry also found that females were more likely to produce falling contours than males and were thus perceived as more expressive in their speech than males.

In New Zealand, uptalk contours have been identified as L* H-H%, L+H* H-H%, and possibly L* L-H% (Fletcher, Grabe & Warren 2004). Gender and age differences were found

between uptalk contour usages, in which the early rise contour (L* H-H%) was preferred by middle-aged females but also by younger males, particularly for questions (Warren 2005), while the other groups primarily used the late rise (L* L-H%). In North America, the uptalk contours of South Ontario English have been identified as L* H-H% and H* L-H% (Shokeir 2008). In Southern Californian English, Barry (2007) identified the most common uptalk contours as L* H-H% and H* H-H% while Ritchart and Arvaniti (2014) found that questions bear the L* H-H% contour while statements bear the L* L-H% and less frequent H* H-H% contours. In summary, the realizations of uptalk as well as interrogative rises appear to differ across English varieties. One of the questions this study seeks to answer is whether there are differences in both the frequency and realization of uptalk contours between the two Midwestern American English dialects.

3. Methods

3.1. Talkers

The data in this study were taken from a corpus of read speech produced by 30 native speakers of American English between the ages of 19-23 years old (Burdin et al. 2014). The participants were evenly distributed by region, with 5 males and 10 females in each region. Half of the talkers were native to the Northern dialect region, which refers the northern Midwestern United States around the Great Lakes, while the other half were native to the Midland dialect region, which refers to the southern Midwestern United States. For the current study, I only analyzed 16 speakers, divided into the following groups: 4 Northern females, 4 Northern males, 4 Midland females, and 4 Midland males.

3.2. Stimulus materials

The participants read 30 short stories twice that were presented one at a time in random order on a computer screen. They were instructed to read each story the first time through as though they were talking to a friend (plain lab speech) and the second time through as though they were talking to a non-native English speaker or someone who is hearing impaired (clear lab speech). They were recorded in a sound-attenuating booth with high-quality digital recording equipment. I selected 10 passages read in plain lab speech for this study, which are shown in the Appendix. A total of 159 passages were analyzed because one talker was missing a passage. The length of the read stories ranged from 23 seconds to 1 minute and 5 seconds in duration.

3.3. Prosodic annotation

The data were analyzed using Tones and Break Indices, or ToBI (Beckman & Ayers 1997), a phonological transcription system that labels distinct prosodic units within an utterance based on Pierrehumbert and Hirschberg's (1990) analysis of intonational contours and Price et al.'s (1991) work on break indices. The Tones tier uses an inventory of pitch events consisting of sequences of high (H) and low (L) tones with diacritics indicating their function within the intonational utterance, such as pitch accent (H*), phrasal tone (H-), and boundary tone (H%) (Pierrehumbert & Hirschberg 1990). The Break Index tier, using a scale of 0 to 4, indicates the strength of the association between words in an utterance, in which 3 represents an intermediate phrase boundary (corresponding to a phrasal tone) and 4 represents an intonational phrase boundary (corresponding to a boundary tone) (Beckman & Ayers 1997).

As with previous research on uptalk using ToBI (Fletcher, Grabe & Warren 2004; Ritchart & Arvaniti 2014; Shokeir 2008), this study focuses on the contours at intonational phrase (IP) boundaries, including the final pitch accent in the phrase, although some evidence

suggests that intermediate phrase (ip) boundaries and IP boundaries are differentially marked and that uptalk may also be realized at the ip level (Clopper & Smiljanic 2011; Fletcher & Loakes 2006). Each IP boundary in each passage was first identified and marked with break index 4, and then the contour of the phrase-final pitch accent and phrasal-boundary tone sequence was identified. The IP is therefore characterized by a pitch accent, phrase tone, and boundary tone. The current study focuses on the frequency and distribution of IPs labelled as L* L-H%, L* H-H%, H* L-H%, and H* H-H%, contours which have been identified as uptalk in previous studies on North American varieties of English (Barry 2007; Ritchart & Arvaniti 2014; Shokeir 2008).

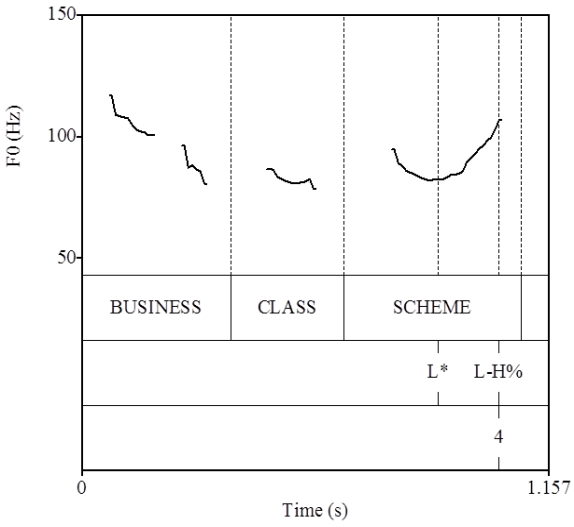

Figure 1: Example of the L* L-H% contour produced at the end of an IP by a Northern male speaker.

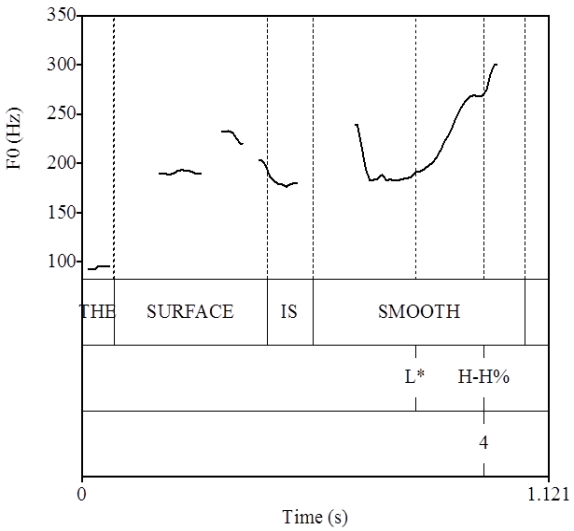

Figure 2: Example of the L* H-H% contour produced at the end of an IP by a Northern female speaker.

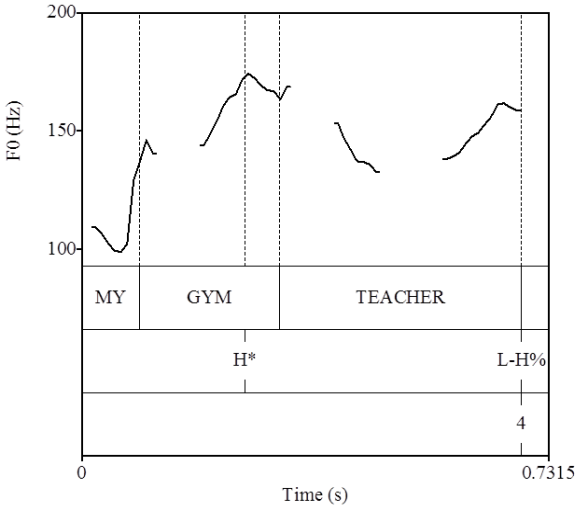

Figure 3: Example of the H* L-H% contour produced at the end of an IP by a Northern female speaker.

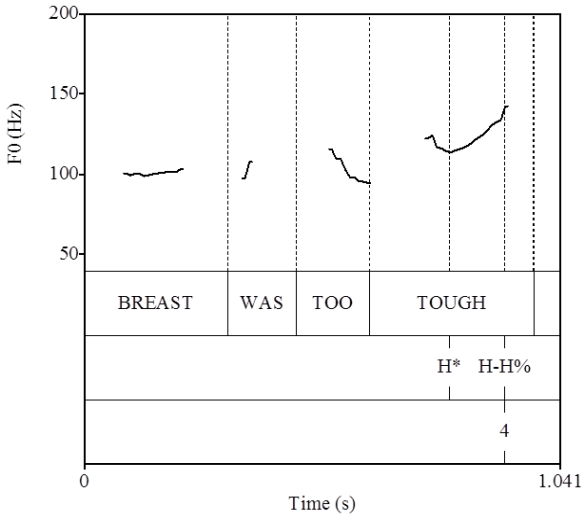

Figure 4: Example of the H* H-H% contour produced at the end of an IP by a Midland male speaker.

Figure 1 illustrates the L* L-H% contour at the end of an IP produced by a Northern male speaker. There is a low target in the phrase-final word "scheme" that rises to the midpoint of the speaker's F0 range. Figure 2 illustrates the L* H-H% contour at the end of an IP produced by a Northern female speaker. There is a low target in the phrase-final word "smooth" that rises steeply to the upper end of the speaker's F0 range. Thus, these two contours differ in the extent of the final rise: the rise to the middle of the speaker's F0 range is transcribed as L-H% in Figure 1, whereas the rise to the upper end of the speaker's F0 range is transcribed as H-H% in Figure 2. Figure 3 illustrates the H* L-H% contour produced at the end of an IP by a Northern female. There is a high target in the word "gym" followed by a drop to the lower end of the speaker's F0 range and then a rise on "teacher," which is un-accented in this noun phrase. Thus, the contours in Figures 1 and 3 differ in the target associated with the pitch accent: the pitch accent is L* in Figure 1, but H* in Figure 3. Figure 4 illustrates the H* H-H% contour produced at the end of an IP by a Midland male speaker. There is a high target in the phrase-final word "tough" that

continues to rise to the upper end of the speaker's F0 range. Thus, Figures 3 and 4 differ in the direction of the pitch movement: the F0 drops to a low target in Figure 3 before rising again whereas the F0 continues to rise to the upper end of the speaker's register in Figure 4. The F0 scaling on the y-axis differs for each figure because of speaker variation in F0 range.

Disfluencies such as reading errors, laughter, and yawning were excluded from the analysis, as well as phrases ending in a question. A total of 2,133 phrases were analyzed from the 16 speakers (108-165 phrases per speaker). I went through each passage two separate times to check for transcription agreement and then conducted a reliability test, in which I independently recoded 5% of the data and compared the percentage of agreement between the original analysis and the reanalysis. 90% of the recoded data were transcribed with the same contours as the original analysis.

4. Results

Twenty-one distinct contours were identified in this analysis, including the four uptalk contours that are the focus of the current study. Only 101 out of 2,133 phrases were identified as uptalk, less than 5% of the data. A summary of the frequency distributions of the uptalk contours relative to all other contours is shown in Table 1. There were only two instances where the H* H-H% uptalk contour was used, whereas there were 38 instances of the L* H-H% contour, 37 instances of the L* L-H% contour, and 24 instances of the H* L-H% contour. Overall, speakers seemed to have a preference for L* onset contours (75 out of 101 uptalk phrases) compared to H* onset contours (26 out of 101 uptalk phrases).

Contour	Number of Phrases
L* L-H%	38
L* H-H%	37
H* L-H%	24
H* H-H%	2
All other contours	2,032
Total	2,133

Table 1. Summary of uptalk contour frequency distribution.

The proportion of uptalk in each reading passage is shown in Table 2. The results demonstrate that the overall proportion of uptalk was relatively small, with most passages containing 3-5% uptalk phrases. The passage "Nature" had the highest proportion at 8.9% and "Research" had the lowest proportion at 1.6%. Note that one of the speakers is missing the passage "Britain."

Passage	Uptalk Proportion
Airport	0.056
Beach	0.059
Britain	0.043
Bubbles	0.041
Dream	0.04
Flax	0.038
Moose	0.034
Nature	0.089
Research	0.016
Winter	0.049

Table 2. Mean proportion of uptalk by passage.

Table 3 shows the proportion of uptalk contours relative to all other contours for each dialect and gender group. The results in Table 3 once again demonstrate that the overall proportion of uptalk was relatively small (less than 5%). As such, the differences between Northern and Midland speakers were small, although the means for the Midland speakers were slightly higher than the means for the Northern speakers. Similarly, the proportion of uptalk did

not show large differences between genders, although the means for female talkers of both dialects were slightly higher than the means for the male talkers. Note that one Midland female produced a large number of uptalk phrases compared to the other talkers in that category, which is reflected in the standard deviation for the Midland Female category.

	Region	
Gender	Northern	Midland
Female	0.044 (0.044)	0.058 (0.079)
Male	0.040 (0.030)	0.054 (0.016)

Table 3. Mean proportion of uptalk by gender and dialect. Standard deviations are shown in parentheses. The means are based on the total number of intonational phrases produced in each category: Northern Female = 496, Midland Female = 513, Northern Male = 620 and Midland Male = 504.

To explore the potential effects of dialect and gender on uptalk proportion, a two-way ANOVA was conducted with gender and dialect as independent variables. The proportion of uptalk was not affected by gender ($F(1,12) = 0.038$, $p = 0.850$), dialect ($F(1,12) = 0.345$, $p = 0.568$) or their interaction ($F(1,12) = 0$, $p = 0.998$), consistent with the very small differences shown in Table 3.

I was also interested to see if the distribution of the four uptalk contours varied across dialect or gender. Table 4 shows the number of utterances produced with the H* L-H%, L* H-H%, and L* L-H% contours for each gender. The fourth contour, H* H-H%, was excluded from this analysis because of its rare occurrence. The table shows that the difference in contour distribution between genders was very small, although the females had a slight preference for L* H-H% and L* L-H% compared to the males and the males had a slight preference for H* L-H% compared to the females. However, while most of the contours were distributed relatively evenly

within each gender, there were a disproportionate number of productions of L* H-H% in the Female category because one speaker produced 15 of the 21 utterances.

	Uptalk Contour		
Gender	H* L-H%	L* H-H%	L* L-H%
Female	9	21	20
Male	15	16	18

Table 4. Number of utterances for each uptalk contour for each gender.

Table 5 similarly compares the number of utterances produced with each contour for each dialect, again excluding the rare H* H-H% contour. The differences between dialects were also very small, with the Midland talkers having a slight preference for L* H-H% and the Northern talkers having a slight preference for L* L-H%. Again, while most of the contours were distributed relatively evenly within each dialect region, there were a disproportionate number of productions of L* H-H% in the Midland category because one speaker produced 15 of the 25 utterances.

	Uptalk Contour		
Region	H* L-H%	L* H-H%	L* L-H%
Midland	13	25	17
Northern	11	12	21

Table 5. Number of utterances for each uptalk contour for each dialect.

The results of a series of chi-square tests indicate that the distribution of the three contours did not differ across region [$\chi^2 = 3.98$, df = 2, p = 0.14] or gender [$\chi^2 = 2.27$, df = 2, p = 0.32], consistent with the small differences shown in Tables 4 and 5.

5. Discussion

The results of this study revealed that of the four uptalk contours identified in other North American varieties, only three occurred relatively frequently in this sample of Midland and Northern American English. These results suggest that Midwesterners typically produce only three of the contours as uptalk: L* H-H%, L* L-H%, and H* L-H%. One possible explanation for this result is that the contour H* H-H% is more typically associated with questions in these dialects, which is consistent with previous research on uptalk in other varieties such as Australian English (Fletcher & Harrington 2001; Fletcher, Grabe & Warren 2004). If interrogative questions are realized differently than declaratives, we would expect different contour distributions for each type of utterance. Barry (2007) found that uptalk contour L* H-H% was produced most often by Southern Californian speakers, followed by H* H-H%. There was a significant gender difference in contour production, in which females produced more L* H-H% than H* H-H% contours compared to males while males produced more H* H-H% than L* H-H% contours compared to females. While the results of the current study showed that H* H-H% did not occur frequently as an uptalk contour, female speakers had a slight preference for L* H-H% and L* L-H% contours compared to males while males had a slight preference for the H* L-H% contour compared to females. The female preference for L* onset contours and male preference for H* onset contours are consistent with Barry (2007). However, Ritchart and Arvaniti (2014) identified H* H-H% as a less frequently produced uptalk contour and L* H-H% as a question contour (Ritchart & Arvaniti 2014). There is also evidence from Australian English that for some speakers there are no discernible differences between question contours and declarative rising contours, while other speakers differentiate between them by producing questions with the H* H-H% contour and declaratives with the L* H-H% contour (Fletcher,

Grabe & Warren 2004). While it is unlikely that Midwestern dialects are more intonationally similar to Australian English than Southern Californian English, the results of this study indicate that there are regional differences in uptalk realization between dialects of American English. While H* H-H% rarely occurred in the data, H* L-H% was produced in 24 intonational phrases. Levis (2002) suggests that contours H* L-H% and L* L-H% as well as H* H-H% and L* H-H% are not perceptually distinct to speakers in the Northern dialect region, even if they are distinct in their production. These findings could indicate that while the contours are phonetically differentiated, they are not phonologically differentiated, which means that the infrequent production of the H* H-H% contour may indicate a phonetic preference on the part of speakers rather than a phonological distinction between the realization of a declarative and question intonation. Further research is needed to determine how Midwestern American English speakers differentiate between statements and questions with rising contours, and whether the contour H* H-H% is more typically associated with question intonation than with uptalk in these dialects.

It is also possible that uptalk in the Midwest is realized in ways that were not examined in this study. There has been discussion of the use of the plateau contour L* H-L% to indicate floor-holding in Southern Californian English, although this contour is acoustically different from prototypical uptalk (Ritchart & Arvaniti 2014). As previously discussed, plateau contours are part of the high rising tune inventories in Belfast (Fletcher, Grabe & Warren 2004; Jarman & Cruttenden 1976) and Glasgow (Fletcher, Grabe & Warren 2004) English, although the pragmatic function in UNB varieties is suggested to be different from other English varieties. Both the L* H-L% and H* H-L% plateau contours were observed in this study. Table 6 shows the number of IPs with these two contours (cf. Table 1). Future studies could explore the possibility of plateau contours being identified as uptalk through perception tasks investigating

listener attitudes towards them and their meanings in discourse. Future work could also explore where plateau contours occur in spontaneous speech and how they compare to other contours identified as uptalk.

Contour	Number of Phrases
L* H-L%	30
H* H-L%	56

Table 6. Frequency distribution of plateau contours.

Contrary to the predictions for this study, neither gender nor dialect affected the distribution of uptalk contours. There are several possible explanations for this lack of an effect. One possibility is that the two dialects do not differ in uptalk usage because they are both part of the Midwest region. However, there is evidence of prosodic differences between Southern and Midland American English (Clopper & Smiljanic 2011), as well as between Southern Californian and Northern American varieties (Arvaniti & Garding 2007), although uptalk was not explicitly compared in these previous studies. Given that prosodic differences are attested between other dialects of American English and given that the Northern and Midland dialects are differentiated in other ways, one would expect potential differences in uptalk production and realization between the two dialects. Similarly, the lack of significant results for gender could indicate that uptalk usage is less gendered in the Midwest than in other regions. However, this runs contrary to most of the literature on uptalk, particularly in North America. While uptalk may be a linguistic change in progress, even recent studies (e.g. Richart & Arvaniti 2014) indicate that women still produce uptalk more than men.

Another possibility is that read speech is not as conducive to uptalk usage as spontaneous speech (Barry 2007; Sando 2009). Because read speech is less natural than conversational speech

and because uptalk often serves floor-holding and feedback-requesting functions that require interaction with another speaker, the difference in uptalk production between genders may be reduced in this study (Sando 2009). While many previous studies have focused on uptalk in spontaneous speech (e.g. Barry 2007; Ritchart & Arvaniti 2014; Sando 2009; Shokeir 2008; Sullivan 2012; Warren 2005), some have also compared uptalk in read speech between genders and found no significant effect compared to spontaneous speech (Sando 2009), similar to the results of the current study. However, the results do show that women use uptalk slightly more than men, which suggests that the null results of this study are likely due to the small sample size. If there were more data, the effects of gender and dialect would probably become more apparent. Further studies of Midwestern dialects should compare read speech to spontaneous speech to further probe the effects of gender on uptalk in these dialects. While it is possible that uptalk usage in the Midwest is less marked for gender than in other English varieties, the lack of significant results is probably due to the nature of the task and the small number of phrases identified as uptalk.

Another consideration for the results is the way this study has defined uptalk. As previously mentioned, this study analyzed the uptalk contours at intonational phrase (IP) boundaries, so that the contour consists of a pitch accent, phrasal tone, and boundary tone. However, evidence suggests that uptalk may also be realized at intermediate phrase (ip) boundaries, i.e. as L* H- and H* H- (Fletcher & Loakes 2006). Pierrehumbert and Hirschberg (1990) argued that ip and IP boundaries are differentially marked in that the tone at each boundary type conveys information independently of one another even when connected in a contour. Clopper and Smiljanic (2011) found that female speakers of Southern American English preferred to link IP-medial intermediate phrases with H- phrase accents in read speech more than

female Midland speakers. Although the study did not specifically investigate uptalk, the authors briefly discussed the implications of these findings for future research in uptalk. Because the scope of the current study only focused on uptalk at IP boundaries, I did not mark IP-medial rises. I did, however, encounter a number of uptalk-like rises at phrasal boundaries and I noted at least 50 instances of IP-medial rises. Future research on uptalk should investigate the prevalence of rises at phrasal boundaries in both spontaneous and read speech across dialects.

6. Conclusions

This study showed that neither gender nor regional dialect had an effect on the overall proportion of uptalk or the types of uptalk contours used by young adults in the American Midwest. This study was limited to read speech and the identification of uptalk in IP phrases only, which I suspect are major contributing factors to the null results. However, the results could be due to a lack of prosodic differentiation between the two Midwestern dialects. It is also possible that uptalk is less marked for gender in the American Midwest relative to other regions, although more evidence is needed to support this claim. As previously mentioned, future research on uptalk in American English dialects should focus on production in spontaneous speech, compare across other North American varieties, and examine the use of H- phrasal tones in IP-medial position across region and gender. Perception tasks should also look into listener attitudes toward both prototypical uptalk rises and plateau contours.

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Appendix

The following 10 short stories were used as the stimuli for the reading task:

Airport

Miranda has an unusual hobby. When she wants to pass some time, she sits around at the airport as if she's waiting to catch a flight. She will talk with and get to know other passengers who are sitting near her. If she's in a playful mood she'll give them advice on how to get cheap flights, and tell them about a scheme to get free business class upgrades. If they're boring to talk to, or she's in a foul mood, she'll leave quickly, saying she needs to catch her flight before it's too late. Unfortunately, there is no business class scheme; the reality is that Miranda has never even stepped foot on a plane! All her tips about getting cheap flights are just invented, or half-remembered from a magazine article she read a few years ago. It's a very strange way to pass the time, that's for sure.

Beach

I expected the company retreat to be great: it was being hosted on the company yacht, near a sunny beach and some great bars. Unfortunately, on our first day at the beach there was a problem-solving and leadership test. They split us into four teams and told us that we'd be working together to build a raft. Each team had some plastic barrels, wooden planks, a lot of rope, and an old inner tube. The first team to make it to the yacht, anchored about 500 yards out, would win full access to the open bar and major bragging rights. I didn't entirely trust my team to ensure that our knots were tight and that we didn't crash or sink on the way, and I was determined to win at all costs. So I took it to the next level and made a pact with one of the other teams – we would both work together to splash, distract, and hopefully sink the other two teams. Once we got on the water, however, we quickly realized that they had broken the pact and that our raft had been sabotaged! The knots were coming loose and there was a puncture in our tube. Our only option was to splash and crash into our former allies and take them down with us as we tumbled into the water. Needless to say, we failed the test.

Britain

In medieval Britain, food was quite different from how it is now. The majority of people mostly ate bread and cheese. A common drink was mead, which is made from fermented honey. Different wheat and yeast were used in the bread, which made the taste much more inconsistent than we are used to today. The mead - although sweet - would commonly have flies and debris in it, as a side effect of the unsanitary brewing conditions, and the yeast used for brewing was of variable quality. In contrast with the drab cuisine of the peasants, however, food at a royal feast was luxurious. Only the finest wheat would be used in the preparation of sweet pastries, which were often served with imported French cheese. For the main course, meats such as swan or even dolphin were not unheard of. Even today, the right to serve swan meat at a feast is held exclusively by the British royal family.

Bubbles

Ashley has a cute pet rat called Bubbles. Many people would think a rat is a bad pet because it's dirty and carries fleas, however, that couldn't be further from the truth. A cat is more likely to carry fleas, and rats are very clean and friendly animals. Bubbles has never scratched or bit Ashley, but she used to have a bad cat that scratched and clawed at her all the time. To tell you the truth, Ashley is very happy with her cute new furry friend, and hopes to never own a cat again.

Dream

I had a crazy dream the other night. I was trying to step carefully over the sprinklers in my grandfather's lawn, to get to his shed where he kept his spare keys. Once I had crossed the lawn and got to the shed, my grandfather was already there. Even though he's going deaf, he heard me approach and turned to tell me I need to floss more! Then things got really weird. Together we got onto the back of a giant moth, and flew to a lodge in the mountains, where we ate chicken breast with my high school gym teacher. He complained that the breast was too tough, and even though it wasn't my fault, ordered me to run 5 laps on the school track, which was conveniently just outside the lodge. After a brief run I was only halfway around the track. Suddenly the moth reappeared and promised to take me away, on the condition that I complete a quest. For some reason I really wanted to get away from my gym teacher, so I agreed. What was the quest? I had to find a giant alligator, step inside of its mouth, and floss its teeth. I said no way, that sounds crazy, and the moth agreed to take me home instead. After a brief flight I was back at home with my deaf grandfather, playing checkers. That's all I remember. Definitely the weirdest dream I've had in a long time.

Flax

Clothes made from flax, better known as linen, are durable and with proper care and attention will last a long time. This soft yet strong fabric can be used to make all sorts of clothes and other items. However, care must be taken should a thread come loose. Because flax linen is a soft material, any long thread that comes loose should be immediately clipped off, lest it snag while in the wash. Before putting it in the laundry basket, I recommend making sure the surface is smooth, with nothing to snag on in the wash. The garment is ultimately only as strong as it is smooth.

Moose

I saw on the news that a moose was running wild downtown. It fought with the cars and made a huge mess of the storefronts. The cops were called and they tried to capture it with a large net, but the moose fought back and would dodge out of the way - I've never seen anything so big dodge so fast! Eventually the cops gave up on using the net and just caught the moose using tranquilizers. They'd never caught an animal that large so they weren't sure how best to do it. The news report didn't say who was left to clean up the mess - I don't envy them!

Nature

Sandra never really appreciated nature, but her first walk in the countryside really changed her view of the outdoors. A frog startled her by hopping straight across the path in front of her. She found the nest of some animal – probably a shrew – and saw fox footprints too. After climbing to the summit of a hill, there was a spectacular view of the area, especially the diversity of trees. There was even an eagle's nest in one of them. Now Sandra goes for a walk every Sunday afternoon. The frog by the path no longer startles her. She caught a glimpse of a fox recently, although she's still never seen a shrew.

Research

My professor wanted a draft of my research paper by the beginning of June. My paper was looking at the use of a recurring melodic theme in a suite by Beethoven. It argued that the speed and tone of the theme influenced several subsequent rock musicians, and that Beethoven had had a more direct impact on modern rock music than previously thought. After many days of work at my desk, I finally handed in the paper on the first of June. I got my feedback a week later. Although my professor thought the draft was a good start, he told me that it didn't go into enough depth. He also told me that my argument about the speed of the suite was quite weak and needed to have a lot more supporting evidence. I'll probably be at my desk for the rest of the summer, looking into new evidence to add depth to my argument. Wish me luck!

Winter

I love winter; waking up in the morning and seeing the landscape covered in sheets of white. It's the perfect time to ski or sled with my friends in fresh snow, make snowmen, and have a good time. My 6 year-old niece was visiting last year and I took her out with me. She's too small to ski of course but she could sled and she fell in love with it! When we got home afterwards it was time for her to have a hot bath and then a nap. Another reason I love winter is having a warm cup of hot chocolate as soon as I get home, and last year was no exception! After my niece was finished in the bath, I laid out fresh bed sheets on my spare bed and she took the longest nap I've ever seen. She must have been really exhausted!